

AC-DC Adapter

19.5 V 120 W / ADT-120A19AA M-A

ADT - 120A

Highlights & Features

- Meet DoE Level VI & CoC Tier 2
- No load power consumption < 0.15 W
- Universal AC input / Full range
- Fully enclosed plastic case
- Protection: short circuit / over voltage / overload/ over temperature



Standards



CB Certified for worldwide use

Model Number: ADT-120A19AA M-A
Unit Weight 0.34 kg (0.75 lb)
Dimensions (L×W x H): 138 x 68.5 x 24.5 mm
 (5.43 x 2.70 x 0.96 inch)

General Description

The ADT-120A19AA M-A external power supply comes with universal AC input at 90 Vac to 264 Vac. With the efficiency up to 91.5% and the extremely low no-load power consumption below 0.15 W, The ADT-120A19AA M-A is compliant with DoE level VI and CoC Tier 2. It conforms to major international safety standards according to IEC/EN/UL 62368-1 and IEC/EN 60950-1 approval for ITE including BSMI, CCC, PSE and KC. In addition, it also meet the EMI approvals to EN/BS EN 55032 Class B.

Model Information

Model Number	Input Voltage Range	Efficiency Level	Rated Output Voltage	Rated Output Current
ADT-120A19AA M-A	90-264 Vac	DoE Level VI & CoC Tier 2	19.5 V	6.15 A

Model Numbering

ADT -	120	A	19	A	A	M -	A
Delta AC-DC Adapter	Max wattage	Family Code	Output Voltage 19 for 19.5 V	A: Desktop	Input connector A:C6	Output Connector M - : Tuning fork O.D: 5.5 mm, I.D: 1.7 mm, Length: 11.0 mm	Standard

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Specifications

Input Ratings / Characteristics

Nominal Input Voltage	100-240 Vac	
Input Voltage Range	90-264 Vac	
Nominal Input Frequency	50-60 Hz	
Input Frequency Range	47-63 Hz	
Input Current (max)	115 Vac	1.4 A max.
	230 Vac	0.7 A max
Efficiency at 100% load (typ)	115 Vac	90.0%
	230 Vac	91.5%
Average Efficiency (min)	89% @ 115 Vac & 230 Vac	
Efficiency @ 10% load	79% @ 115 Vac & 230 Vac	
No Load Power Consumption (max)	0.15 W @ 115 Vac & 230 Vac	
Power Factor (min)	0.9 @ 230 Vac/ Rated output current	
Inrush Current	No damage	
Leakage Current (max)	0.1 mA @ 240 Vac/50Hz	

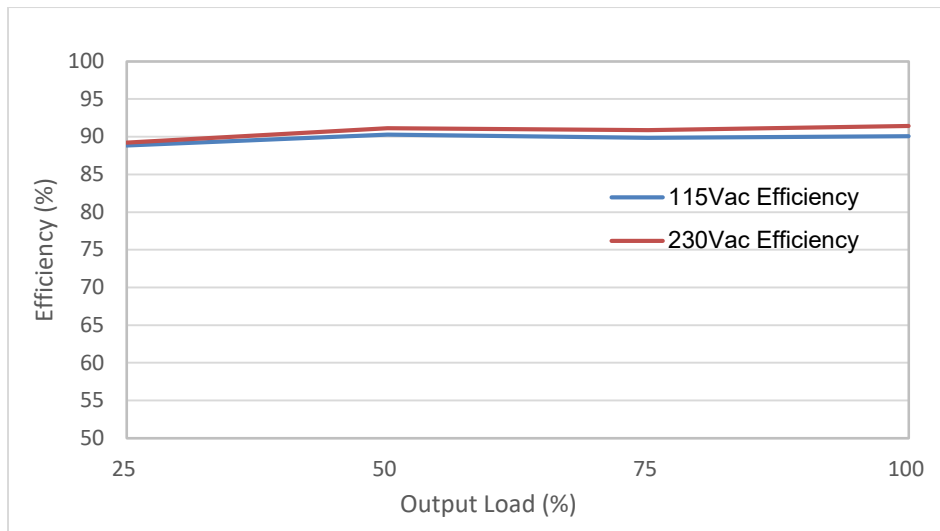


Figure 1. ADT-120A19AA M-A efficiency versus output load

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Output Ratings / Characteristics

Nominal Output Voltage	19.5 V	
Output Current	6.15 A	
Output Power	120 W	
Line Regulation	± 0.5%	
Load Regulation	± 4.5%	
PARD* (20 MHz)	0 to 40°C	380 mV pk-pk
	-10 to 0°C	760 mV pk-pk
Start-up Time (typ.)	1000 ms @ 115 Vac 500 ms @ 230 Vac	
Rise Time (max)	40 ms @ nominal input, full load	
Hold-up Time (min)	20 ms @ nominal input, full load	
Transient Responses	± 10% @ 10% -100% load change, Slew rate 1 A/us ,100 to 5 KHz, 50% Duty Cycle	
Capacitive Load (max)	470 uF	

*PARD is measured with an AC coupling mode, and in parallel with 0.47 uF ceramic capacitor & 47 uF electrolytic capacitor.

Mechanical

Case	PC	
Dimensions (L × W × H)	138 x 68.5 x 24.5 mm (5.43 x 2.7 x 0.96 inch)	
Unit Weight	0.34 kg (0.75 lb)	
Indicator	N/A	
Cooling System	Convection	
Terminal	Input	Socket C6 type
	Output	Tuning fork (O.D: 5.5mm, I.D: 1.7mm, length: 11mm)
	Length	1800 mm

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Environment

Surrounding Temperature	Operating	-10°C to +60°C
	Storage	-40°C to +85°C
Power De-Rating	>40°C de-rated by 2.5%/°C	
Operating Humidity	5%-95% RH (non-condensing)	
Operating Altitude	5,000 meters (16,400 feet)	
Ball Impact Test	Test height 130cm, 1 sample 1 time, Steel Ball 500g, Concrete floor	
Drop Test	Test height 100cm, 6 face for each sample, concrete floor Function test pass after drop test	
Shock Test (Non-Operating)	50 G, 11 ms, 1 shock for each direction	
Vibration (Non-Operating)	5-500 Hz, 2.09 Grms, 20 mins, one cycle for each three axis	

Protections

Overvoltage (max)	29.25 V, Latch
Overload / Overcurrent (max)	120-180% , Latch
Over Temperature	Latch
Short Circuit	Latch
Pollution Degree	2
Protection Against Shock	Class I

Reliability Data

MTBF	> 300,000 hrs. per Telcordia SR-332 at Input: 115 Vac, Output: 100% load, Ta: 25°C
Expected Cap Life Time	5 years (50% load @ 25°C)

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Safety Standards / Directives

Electrical Safety	IEC/EN 60950-1 ; IEC/UL/EN 62368-1	
	BSMI CNS14336-1	
	CCC GB4943.1	
	PSE J62368-1	
	KC K60950-1	
CE	Comply with EMC Directive 2014/30/EU and the Low Voltage Directive 2014/35/EU	
UKCA	In conformance with Electromagnetic Compatibility Regulations 2016 and Electrical Equipment (Safety) Regulations 2016	
Galvanic Isolation	I/P to O/P	3000 Vac

EMC

EMC / Emissions		CISPR/EN/BS EN 55032 Class B BSMI CNS13438 GB/T9254 KN32
Harmonic Current Emissions	IEC61000-3-2	Class D ; GB17625.1
Immunity to		EN/BS EN 55024; KN35
Radiated and conducted Emissions		Conducted Emissions: EN/BS EN 55032 Class B Radiated Emissions: EN/BS EN 55032 Class B
Voltage Flicker	IEC61000-3-3	
Electrostatic Discharge	IEC61000-4-2	Level 4 Criteria A ¹⁾ Air Discharge: 15 kV Contact Discharge: 8 kV
Radiated Field	IEC61000-4-3	Level 2 Criteria A ¹⁾ 80 MHz-1 GHz, 3V/m , 80% AM(1 KHz)
Electrical Fast Transient / Burst	IEC61000-4-4	Level 2 Criteria A ¹⁾ : 1 kV
Surge	IEC61000-4-5	Level 3 Criteria A ¹⁾ Common Mode ⁴⁾ : 2 kV Differential Mode ⁵⁾ : 1 kV
Conducted	IEC61000-4-6	Level 2 Criteria A ¹⁾ 150 kHz-80 MHz, 3 Vrms, Sine Wave, 80%, AM modulation
Power Frequency Magnetic Fields	IEC61000-4-8	Level 2 Criteria A ¹⁾ Magnetic field strength 3 A/m
Voltage Dips	IEC61000-4-11	Voltage dips 70% reduction/0.5 periods (Criterion A ¹⁾) 40% reduction/5 periods (Criterion B ²⁾) Voltage short interruptions 5% reduction/250 periods (Criterion B ²⁾)

1) Criteria A: Normal performance within the specification limits

2) Criteria B: Output out of regulation, or shuts down during test. Automatically restore to normal operation after test.

3) Criteria C: PSU shuts down during test, but need operator to reset.

4) Asymmetrical: Common mode (Line to earth)

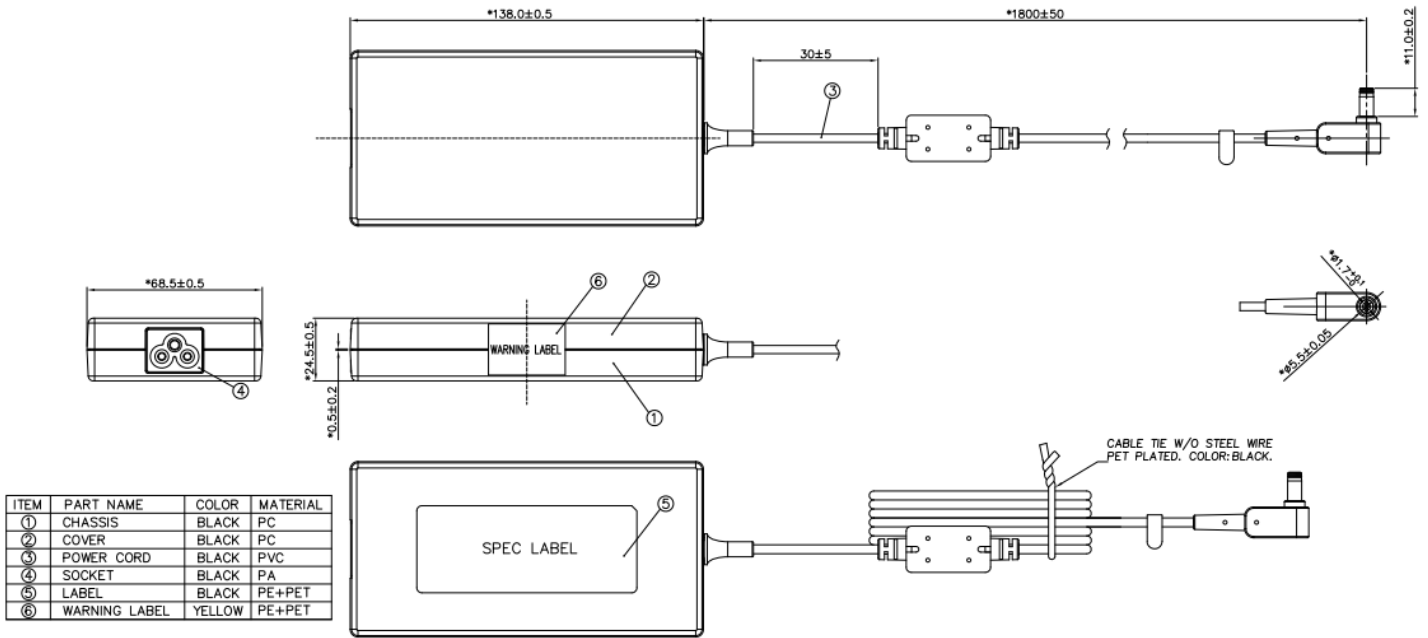
5) Symmetrical: Differential mode (Line to line)

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Dimensions

L x W x H: 138 x 68.5 x 24.5 mm (5.43 x 2.7 x 0.96 inch)



Engineering Data

Output Load De-rating V.S. Surrounding Air Temperature

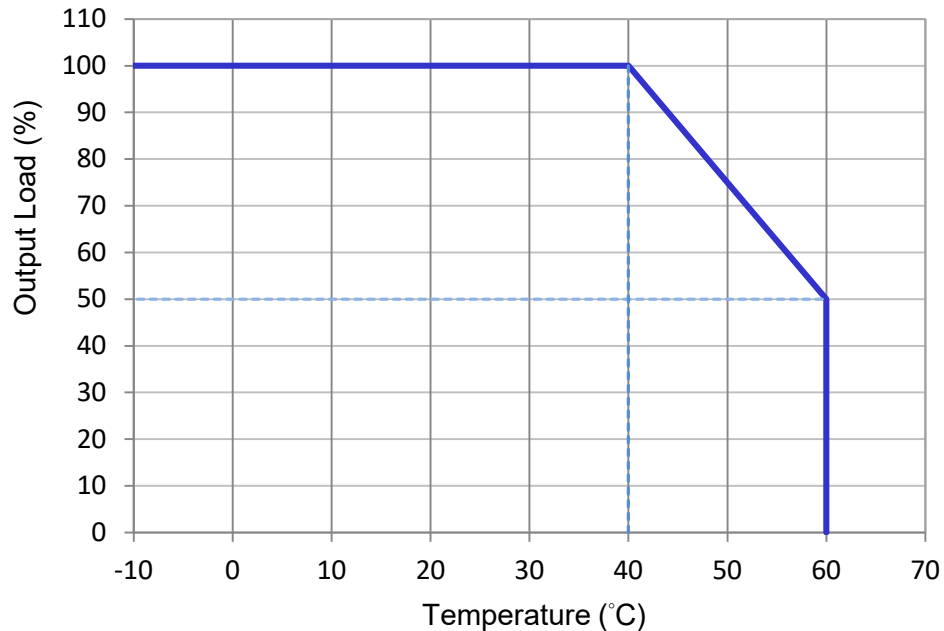


Fig. 1 De-rating for All Mounting Orientation
> 40°C de-rate power by 2.5% / °C

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Attention

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